

# Issues in Essential Maternal Health Care Workshop Proceedings

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From 24 through 26 April 1996, JHPIEGO cosponsored with MotherCare II a workshop on issues in training for essential maternal health care (EMHC). The workshop was also attended by representatives of the American College of Nurse-Midwives, INTRAH/PRIME, the United States Agency for International Development and the World Bank, as well as participants from seven developing country agencies and institutions involved in maternal health care. The report of the workshop, published in 1997, explores the development of a training strategy for EMHC, and problems and approaches in training. The example of Indonesia, which was used as a case study in the workshop, also is discussed. The report concludes with the group's recommendations and conclusions concerning policy considerations, training issues and training materials development for EMHC.

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# WORKSHOP SUMMARY

## Objectives

From 24 through 26 April 1996, the JHPIEGO Corporation and MotherCare II cosponsored a workshop on issues in training for essential maternal health care (EMHC). The workshop had three objectives:

- Develop a strategy for maternal health care training with a view to reducing maternal mortality in countries where it is unacceptably high
- Assess the adequacy and appropriateness of existing EMHC training materials and recommend actions that will result in a full range of high quality training materials
- Identify practical training approaches that can be integrated into competency-based training in maternal health as a part of overall reproductive health training

## Organization of the Workshop

To begin the workshop, David Oot, Director of the Office of Health and Nutrition of the United States Agency for International Development (USAID) made the keynote address: "Training: Are We Getting a Good Return on Our Investment?" After the participants presented a conceptual framework for EMHC and training, the international participants described the situations in their countries and established a geographical framework. The group next addressed development of training strategies and some of the most urgent problems in training for EMHC. A panel of experts then discussed training issues in Indonesia as a country case study. At the end of the workshop, the participants divided into three working groups to focus on training systems development, materials development and clinical training for EMHC.

## Making Motherhood Safer

Most maternal and neonatal deaths are preventable. The majority of maternal deaths are attributable to five causes: hemorrhage, sepsis, hypertensive disorders of pregnancy/eclampsia, obstructed labor and unsafe abortion. The majority of neonatal deaths are attributable to six causes: birth asphyxia, pneumonia, tetanus, birth trauma, sepsis and diarrhea. For the purposes of this workshop, EMHC was defined as prenatal care, clean/safe delivery and essential obstetric care—three of the basic elements in the World Health Organization's (WHO's) "Mother-Baby Package" (WHO 1994b).

In developing strategies for training personnel in EMHC, a number of complex issues must be addressed. First, EMHC is different from other areas of health care. The risk approach used so successfully in family planning is of limited usefulness in EMHC. Furthermore, EMHC includes not only routine care, but also emergency care for complications that can arise at any time throughout pregnancy, delivery and the postpartum period. Second, although low technology interventions are needed to improve EMHC, MCH/FP (maternal and child health/family planning) personnel will still need training in certain basic skills before they will be able to provide EMHC competently. Third, many institutions do not have a caseload of maternal complications sufficient to train more than a small number of personnel for these relatively rare events. Fourth, many countries still do not have well-defined safe motherhood or EMHC training strategies. Finally, there is an urgent need for more competency-based training in EMHC, additional training materials and increased numbers of experienced trainers.

## Training For Essential Maternal Health Care

Workshop participants shared lessons from the field in developing training strategies. Representatives from the American College of Nurse-Midwives (ACNM), INTRAH/PRIME, JHPIEGO and MotherCare II presented strategies they have found effective. The group focused on six basic questions that need to be addressed in developing training strategies and programs for EMHC.

- Who should be trained?
- What training is needed?
- How should training be conducted?
- How can training be made competency-based?
- What are the gaps in training materials?
- How can training be evaluated?

## Conclusions And Recommendations

The group made recommendations concerning policy considerations for training, training issues and training materials development:

- A country's government must be committed to improving EMHC. Broad training strategies must be developed, and there must be a national consensus about what skills are included in EMHC.
- Training must be guided by the community's health needs and must be competency-based. Inservice training should be considered in conjunction with preservice training and the service delivery system.
- Training must address basic EMHC skills, prevention and treatment of complications, and problem-solving skills.
- Trainers must have knowledge, skills and experience in the subject in which they are training.
- Training must be evaluated with reference to training outputs and outcomes.
- Training materials must be developed as an integral part of the training system. Materials for EMHC should not be considered separately from materials for reproductive health care.
- Collaboration among developers of training materials is necessary to ensure that materials are standardized and carry a consistent message. A database or clearinghouse of EMHC

materials is recommended to help determine what materials are needed.

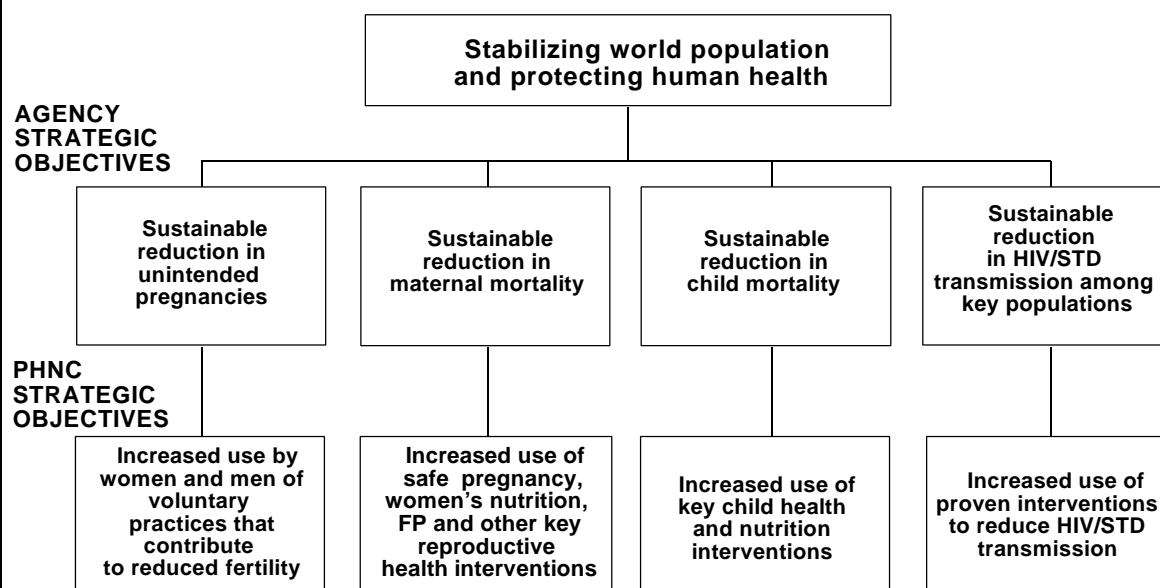
# KEYNOTE ADDRESS: TRAINING— ARE WE GETTING A GOOD RETURN ON OUR INVESTMENT?

David Oot, MPH  
Director  
Office of Health and Nutrition  
United States Agency for International Development

## What the USAID/PHN Center Is Doing to Achieve Its Strategic Objectives

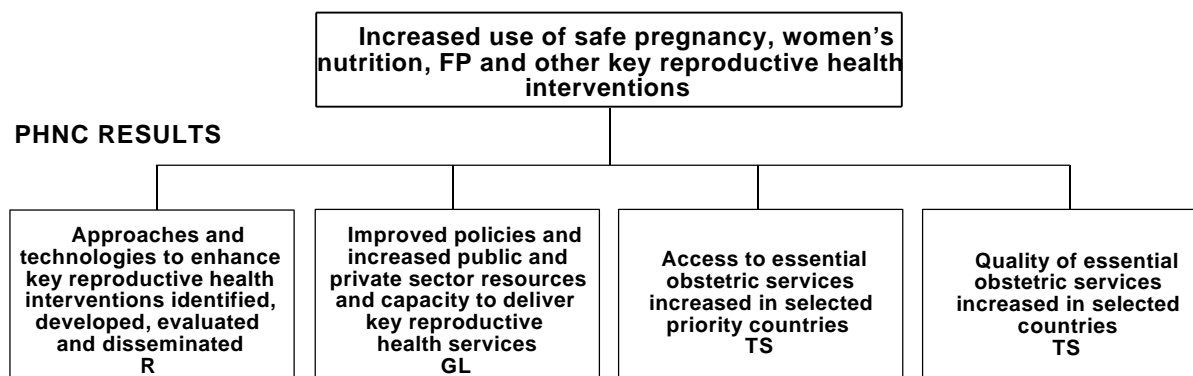
In 1995, the Public Health and Nutrition (PHN) Center of USAID developed a 3-year action plan. Some of you are very aware of this and have helped us with some of the strategic planning. First we developed a **strategic framework**, based upon our Agency goals and objectives (see **Figure 1**).

**Figure 1. Agency Goal**



It is clear that your work contributes to all, or at least most, of the PHN Center objectives because there is a great deal of synergy among these areas. Since you have chosen Issues in Maternal Health Care as the topic of this workshop, I will focus upon Strategic Objective #2: “increased use of safe pregnancy, women’s nutrition, family planning and other key reproductive health interventions” and the results that lead to attainment of the strategic objective (see **Figure 2**).

**Figure 2. PHNC Strategic Objective**



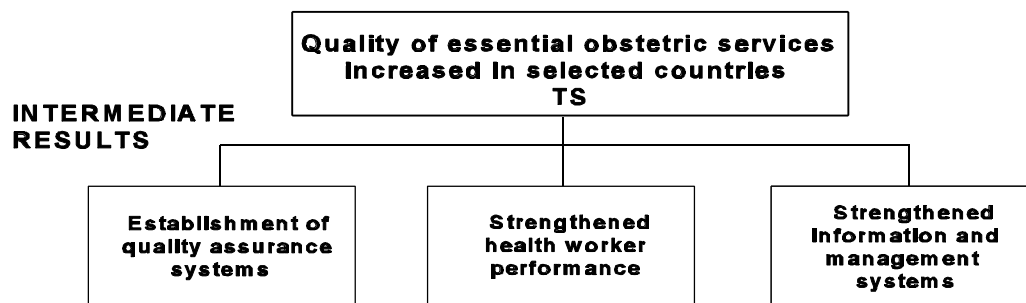
The **critical functions** of the PHN Center—research, global leadership and field support—are reflected in the following results that contribute to the strategic objective:

- **research (R)** and evaluation of technologies and approaches;
- **global leadership (GL)** in the areas of policy; public and private sector resource generation and allocation; and capacity building; and
- **technical support (TS)** to increase demand for, access to and quality of reproductive health information and services.

The Global Bureau cannot perform these critical functions alone. We rely on our cooperating partners to help us with their implementation.

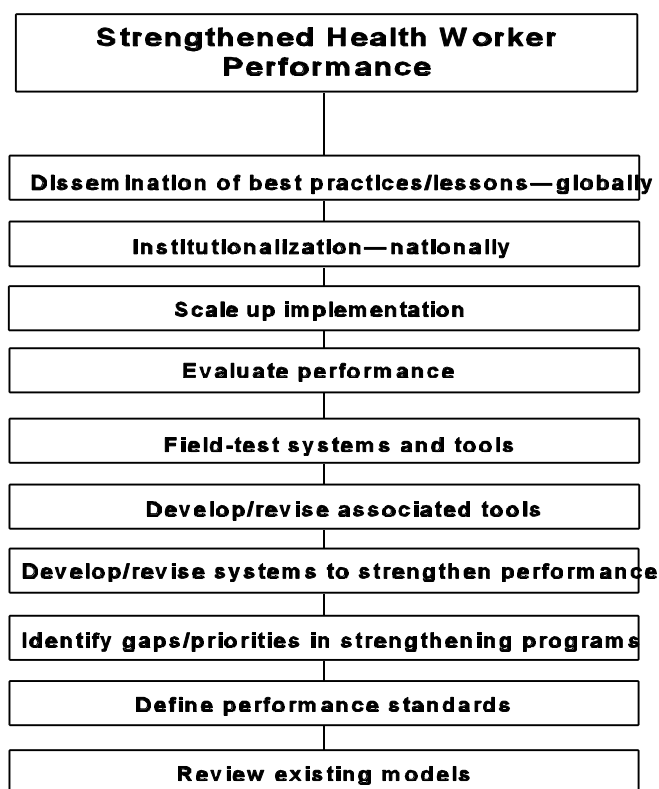
For each result, we have determined **intermediate results**. For our purposes today, I have chosen “quality of essential obstetric services increased in selected countries” as our PHN result. **Figure 3** shows this result with three associated intermediate results.

Figure 3. Example of a PHN Result



For each of the intermediate results, we have developed **critical pathways** that essentially delineate **benchmarks** for progress toward meeting the result. The following pathway (Figure 4) describes the steps that lead to strengthened health worker performance.

Figure 4. Critical Pathways to an Intermediate Result



This pathway is a model that may not fit all situations. For example, performance standards may already be available and current. There also may be feedback loops so that if provider performance, when evaluated, is not satisfactory, systems or tools may be revised before scaling up. Furthermore, an effective model may not have been cost-effective when scaled



Finally, we have developed **indicators** for the PHN Center. These indicators, while in no way inclusive of all that we do and all the contributions that we make, are a significant part of our results review and thus help to determine future directions and funding for our programs. In the case of reproductive health, the PHN Center sponsored a massive effort in 1995, to which many of you contributed, to identify indicators for reproductive health. Building upon that work and subsequent refinements based, in part, upon further discussion with our cooperating partners, we have a “short list” of indicators. I would like to share with you the ones related to the result of improved quality of essential obstetric services and the objectives to which they contribute (see **Table 1**).

**Table 1. Indicators for Strategic Objectives**

STRATEGIC OBJECTIVES AND RESULT	INDICATORS
<b>Agency Strategic Objective</b> Reduced maternal mortality	■ Maternal mortality ratio (measure every 10 years)
<b>PHNC Strategic Objective</b> Increased use of reproductive health services	■ Prenatal coverage ■ Delivery attended by medically trained birth attendant ■ Met need for essential obstetric services ■ Iron supplementation coverage ■ Tetanus toxoid coverage ■ Acceptance of quality assurance
<b>Result</b> Improved quality of essential obstetric care	■ Number of facilities adopting prototype systems for monitoring - complications - admission-intervention interval - case-fatality rates

My presentation thus far has been very theoretical. Next I would like to give an actual example of work that the PHN Center has done so that you can see how the design, implementation and evaluation of program activities fit into this framework.

In 1990, in Inquisivi Province, a remote rural area in the Andean highlands of Bolivia, there was a high rate of maternal and perinatal mortality. Because traditional approaches had been unsuccessful in reaching these women, it was decided that a participatory process would be used to address the high mortality in the area. To assist the community in recognizing and addressing the problems, it was necessary to train the staff to organize and facilitate women's groups to carry out autodiagnosis. Performance standards were not identified as such, although they were implicit in the training manuals that were developed subsequently. After priorities were established, community participation and ownership being the most important, a training approach and materials were developed and field-tested.

Performance was found to be excellent based upon outcomes. The autodiagnosis, and subsequent actions the autodiagnosis instigated, resulted in a substantial decrease in perinatal mortality from 117 to 44 per 1,000, a decrease in the number of maternal deaths and an increase in family planning acceptors from 0.1 percent to 27 percent. This training is being scaled up to a larger number of districts in Bolivia by nongovernmental organizations (NGOs) and institutionalized through the government *Plan Vida*. Results have been disseminated in USAID reports and *MotherCare Matters*. The autodiagnosis training will soon be adapted in Peru by NGOs in the ReproSalud project and in Pakistan by several NGOs in the Pakistan NGO Initiative.

### The Contribution of Training to Achievement of Program Results: Improved Provider Performance

In order to improve health through service delivery, training is a key intervention. But it is not the only one, and not an end in itself. Programs that use training as part of their overall strategy must demonstrate that training improves the acceptability, quality and availability of key services and make a case that training and improved service delivery contribute to improved outcomes (e.g., reduced infection) and improved impact (e.g., reduced maternal mortality).

### The Next Generation of Support for Training

We are concerned with the following questions about training:

- Are we training the right people?
- Are we doing it efficiently (pros and cons of consolidation)?
- Is the content on target?
- What is the appropriate balance between preservice and inservice training?
- Are we employing training materials and methods that work?
- Are we becoming more client-oriented?
- What impact does training have on workers' subsequent performance?
  - Do we know? Do we have simple indicators for this?

- Are we linking training to service delivery?
- Can we more fully engage the private sector in service delivery? What is the role of training in this?

## **Institutionalization of Training**

To date, USAID has put a great deal of investment into inservice training. USAID programs have put far fewer resources and far less effort into influencing preservice curricula to include state-of-the-art material. Cutting-edge inservice training programs need to be incorporated into preservice curricula in order to educate the next generation. Inservice training will need to continue in order to create the clinical environment in which preservice learners can see high quality of care modeled. A balance is needed. Programs need to address the gap between preservice and inservice training; this requires, at a minimum, changing curricula and improving capability in clinical teaching and evaluating trainee performance.

There is a need to achieve sustainability in training capability. This means more than introducing new topics into the curriculum. It requires nurturing the regular review of service delivery needs, new teaching methodologies, and breakthroughs in technologies and approaches that should influence clinical practice guidelines, as well as training plans.

## **Evaluation of Training**

We do not know enough about the impact of training on subsequent performance. How well do trainees perform skills immediately after training? After 1 year? After 2 years? Do those who have been trained regularly perform the skills that they were taught?

There are other questions that must be asked. How well is training planned to meet program results? Are the right trainees taught how to perform the right things? Are goals realistic? Could we achieve better results if we incorporated other key requisites into the training strategy?

USAID will look to our partners to give us data on the cost of training, both startup and recurring. More important, we need to employ cost-effectiveness analysis on training models. Only when this is done can we know when to employ, for example, streamlined distance learning models vs. more costly competency-based training. With the limited amount of funds and the great amount of expertise USAID can call on from its cooperating partners, our best contribution will be to provide technical leadership by careful analysis

In addition to training, there are other **key requisites of provider performance**, including:

- appropriate number and cadres of health workers
- specific, realistic job descriptions
- supervision
- deployment to appropriate sites of need
- enabling environment
  - compensation
  - material support
  - professional recognition
  - appreciation
  - nonrestrictive regulations/legislation

Other factors that can exert powerful influences to promote and retain quality of care include:

- certification/recertification of providers
- accreditation/reaccreditation of training programs
- consumer advocacy
- institutionalized quality assurance (QA) programs

The reason for scrutiny of the contribution of training is that there are other approaches that may improve worker performance, as well as other aspects of service delivery. Quality assurance is an approach that has provided us with excellent results.

- In Niger, the staff of a local clinic used QA approaches to increase the level of early prenatal visits by 400 percent and acceptance of family planning by 150 percent.
- In Chile, midwives trained in QA raised the utilization of prenatal services by high-risk adolescents from 16 percent to 46 percent; another clinic team improved compliance with prenatal anemia screening from 5 percent to 65 percent.
- In Guatemala, a QA team in a public hospital lowered the post-caesarean infection rate from 25 percent to 11 percent.
- In Indonesia, the proportion of clients leaving the family planning clinic of a hospital without services decreased from 50 percent to 0 percent after a QA approach was used.

Much of the QA work has been done with minimal resources. When such a process is institutionalized, it can be a powerful systematic change to improve service delivery and health outcomes.

It is essential to consider training, therefore, as but one tool in a constellation of determinants and approaches that have the potential to improve worker performance. Furthermore, when one is designing a training intervention, it is important to consider and, if necessary, include the other key requisites in order to develop an effective training strategy that will produce tangible and lasting results.

## The Unique Challenges of the Cairo Agenda

### **Creation of Demand for Services**

Many women suffer chronic illness and die because of the lack of acceptable services or because they do not understand that there is help for their problem. Creation of demand requires increased awareness on the part of women, their husbands, mothers-in-law and other decision-makers of life-threatening complications; increased ability of the community to find resources for women to access the services; and services themselves that are culturally appropriate and of high quality. Only when this demand increases will women have their sexually transmitted diseases (STDs) and their life-threatening complications of pregnancy treated.

### **Technical Requirements**

The Cairo Agenda has added a host of new services to be provided for women of reproductive age. These include family planning; safe pregnancy; management of obstetric complications; nutrition; and treatment of reproductive tract infections. In the effort to provide integrated services that are accessible to women, tremendous new demands will be placed upon the health care providers. Far more will be expected in technical skills.

### **Client Orientation**

Not only will the need for technical skills increase, but also the need for a client orientation. Adolescents will need to be attracted to services. All women will need to be given enough information to make choices and voluntarily choose or reject services. Appreciation of the problems of sexual and gender-based violence will need to be created. The basics of confidentiality, privacy and respect will need to be improved. The change from an organizational orientation to a client orientation will be an important step to embrace human rights as promoted in the Cairo Agenda.

## **Linkages**

In order to provide optimal services for women and make services as accessible as possible, there will need to be new and strengthened linkages between the community, the health center and the hospital. To provide the type of services that women need, some problems encountered in the community will need referral to the primary health care center (PHC) or hospital. For example, a woman may receive her prenatal care in the community, need to go to the PHC for treatment of a reproductive tract infection that was identified at the community level, and may need the services of the district hospital if a life-threatening complication occurs. The woman and her family should not feel abandoned when referral is necessary.

## **New Diagnostics**

Until we develop new diagnostics, particularly for reproductive tract infections, women will continue to carry a heavy burden of disease in what has been called “the silent endurance.” Some women suffer from chronic discharge and pain. Others, who often have asymptomatic infection, may experience unexplained infertility. In either case, the social consequences may be far more severe than the physical consequences, leading to destroyed marriages and unfulfilled lives.

## **Balance**

The Cairo Agenda has brought high expectations, and with it some conflicting expectations. Already, there are watchdog groups looking for results. In order to achieve results, such as decreased prevalence of anemia, for example, a program of iron tablet distribution may be promoted at the cost of providing comprehensive prenatal care. In addition to the potential conflict between comprehensive care and results, there is an additional conflict between achievement of short-term results and sustainability. In fact, program planners may need to sacrifice some short-term impact in order to employ an approach that ensures institutionalization. Finding the balance and maintaining it will be an enormous challenge that we expect will be addressed in our USAID-supported programs as we develop and test models and approaches.

## **Cost**

Perhaps the biggest challenge will be to address the question of the cost in implementing the Cairo Agenda. While the PHN Center cannot take on all elements detailed in the plan of action, our research will provide a rational basis for making programming decisions based upon cost-effectiveness data on individual interventions and packages of services. The Office of Health and Nutrition is currently undertaking an effort to analyze costs of

## Conclusion

Are we getting a good return on our investment? We can't fully answer this. We believe that we have developed good models for training that have led to improved knowledge. Fewer have been evaluated for immediate and lasting change in skills, let alone observable changes in services delivery. We should continue to evaluate skills improvement and start to link it up with cost and health outcomes as we manipulate other key requisites in order to determine the best strategy for improving provider performance.

This self-scrutiny should be balanced. The good news is that we have introduced much improved training methods to the rest of the world. We have substituted interactive, competency-based training using principles of adult learning for passive, hierarchical knowledge-based training. We have substituted a focus on problem solving and applying knowledge and skills to new situations, rather than relying on rote memorization as an end result. This is an extremely important contribution.

I congratulate JHPIEGO, MotherCare II, the American College of Nurse-Midwives and INTRAH/PRIME as organizations that have taken the lead in modeling training approaches in reproductive health. These organizations, with their different areas of expertise and focus on different types of providers, can be a powerful team to work together toward common goals of reducing maternal mortality and improving maternal health. I look forward to seeing collaboration toward our common goals as we venture into broader areas of reproductive health care to improve the health and survival of mothers.

# OVERVIEW

## Background

From 24 through 26 April 1996, the JHPIEGO Corporation and MotherCare II cosponsored a workshop in Baltimore on issues in training for EMHC. The workshop was also attended by representatives of ACNM, INTRAH/PRIME, USAID and the World Bank, as well as participants from seven developing country organizations and institutions involved in maternal health care. (See **Appendix A** for a list of participants and their affiliations.)

First, several participants made presentations that established a conceptual framework for EMHC and training. Next, the international participants presented country profiles which established a geographical framework. Technical matters related to training, and issues concerning development of training strategies, were then brought out in presentations and discussion. On the second day, Indonesia was used as a case study. A panel of experts discussed various issues related to Indonesia's maternal health and training programs. Workshop participants described projects that had been implemented in Indonesia either by their agencies or the Indonesian government. On the last day, the workshop was divided into three working groups of approximately eight persons each to focus on the special interest areas of: (1) training systems development, (2) materials development and (3) clinical training. Each group then presented its recommendations to the entire workshop. (See **Appendix B** for the workshop agenda.)

The purpose of the workshop was to focus on those parts of the problem of maternal and neonatal mortality in which training plays a role. It reviewed progress that has been made in developing training strategies for EMHC and the work that is still needed in this area. Specifically, the workshop addressed the problems of who needs training and what type of training they need, how training should be conducted and evaluated, and the strengths and weaknesses of training materials currently available for EMHC.



## Objectives

Specific objectives of the workshop were to:

- Develop a strategy for maternal health care training with a view to reducing maternal mortality in countries where it is unacceptably high
- Assess the adequacy and appropriateness of existing EMHC materials and recommend actions that will result in a full range of high quality training materials
- Identify practical training approaches that can be integrated into competency-based training in maternal health as a part of overall reproductive health training

## Making Motherhood Safer

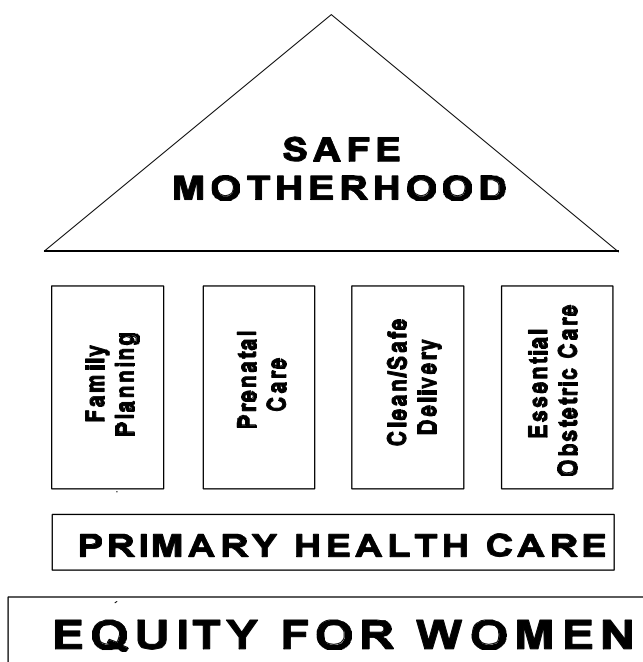
Reducing the unacceptably high levels of maternal mortality that persist in many countries and bringing about the best possible outcome of every pregnancy will be major challenges for the remainder of the 1990s and into the next millennium. The Safe Motherhood Conference held in Nairobi in 1987 called on countries to reduce their maternal mortality by half by the year 2000 (Herz and Measham 1987). This target has subsequently been adopted by most developing countries.

Every minute of every day one mother dies following pregnancy-related complications, and eight babies die following pregnancy- and delivery-related complications and lack of newborn care. Most of these deaths are preventable. Of the estimated 585,000 maternal deaths annually related to pregnancy, labor and delivery (WHO/UNICEF 1996), 60 to 80 percent are due to five direct causes: hemorrhage (25 percent of all maternal deaths), sepsis (15 percent), hypertensive disorders of pregnancy/eclampsia (12 percent), obstructed labor (8 percent) and unsafe abortion (13 percent) (WHO 1994b). Many of the 4.3 million newborn deaths each year also are preventable, particularly those caused by birth asphyxia (21 percent of all neonatal deaths), pneumonia (19 percent), tetanus (14 percent),

birth trauma (11 percent), sepsis (7 percent) and diarrhea (2 percent) (WHO 1994b).

The World Health Organization has recently proposed a “Mother-Baby Package,” a group of relatively simple interventions designed to reduce mortality and improve maternal and neonatal health (WHO 1994b). These interventions are based on technology appropriate to the developing world. The four essential “pillars” of this package are family planning, prenatal care, clean/safe delivery and essential obstetric care (see **Figure 1**). The last three are grouped for the purposes of this meeting as essential maternal health care.

**Figure 1. Pillars of Safe Motherhood**



Source: WHO 1994b.

Any strategy for training health personnel to improve EMHC will have to consider several aspects in which maternal health care differs from most other areas of health care, including family planning. One difference is the limited usefulness of the risk approach. Although identifying high-risk populations (e.g., adolescents) as targets for family planning interventions is a very successful strategy, the risk approach is less useful in maternal health. First, the

whole period of pregnancy, labor, delivery and postpartum is itself a time of continuing risk. At any point during this period a woman can develop a complication and die. Second, attempting to predict which women will develop complications has generally proven unsuccessful. The great majority of women who are identified as “high-risk” go on to deliver normally without complications, while many women who do develop complications would have been placed in a “low-risk” category if risk had been previously assessed.

Essential maternal health care comprises not only the routine care of a woman throughout her pregnancy, during labor and delivery and in the postpartum period, but also the emergency care she may require in the event of a complication during this time. It includes services that must be provided for all pregnant women, such as counseling and provision of iron tablets for prevention of iron deficiency anemia, tetanus toxoid administration and performance of a clean, safe delivery. In addition, health professionals who care for pregnant women must be ready to offer emergency services when a crisis arises, however rarely this may happen. Crises are most likely to occur during labor, delivery or the first few days postpartum, when such events as obstructed labor, postpartum hemorrhage or puerperal sepsis may arise. Service providers must also be prepared, nevertheless, for complications during the entire course of pregnancy when antepartum hemorrhage or hypertensive disorders, for example, may require emergency treatment.

<b>Basic Elements of Maternal Care</b>	
<b>Routine Prenatal Care</b>	<b>Emergency Care</b>
<ul style="list-style-type: none"> <li>■ risk assessment and knowledge of the referral chain</li> <li>■ recognition and management of pre-eclampsia</li> <li>■ recognition and prevention of anemia</li> <li>■ recognition of cephalo-pelvic disproportion and abnormal lie</li> <li>■ client education</li> <li>■ ensuring fetal and maternal well-being</li> </ul>	<ul style="list-style-type: none"> <li>■ vacuum extraction</li> <li>■ symphysiotomy</li> <li>■ caesarian section and laparotomy</li> <li>■ resuscitation</li> <li>■ manual removal of the placenta</li> <li>■ bimanual compression</li> <li>■ managing infections</li> <li>■ managing eclampsia</li> <li>■ suturing lacerations</li> </ul>
<b>Routine Obstetrics</b>	<b>Postabortion Care</b>
<ul style="list-style-type: none"> <li>■ use of the partograph</li> <li>■ use of oxytocics</li> <li>■ use of infection prevention practices</li> <li>■ knowledge of maternal nutrition in labor</li> </ul>	<ul style="list-style-type: none"> <li>■ manual vacuum aspiration</li> <li>■ counseling</li> <li>■ emergency care</li> </ul>
	<b>Family Planning</b>
	<b>Infection Prevention</b>

Most of the actions required to improve EMHC from the onset of pregnancy through the postpartum period are relatively low cost and “low tech,” i.e., do not require expensive or sophisticated machines or equipment. To enable MCH/FP workers to provide these services, however, they will need to be trained in certain fundamental skills. In some countries, clinical facilities for labor and delivery, to be developed as EMHC training sites, can be linked to an already developed family planning training network. In this scenario, a relatively modest expansion and strengthening of provincial training centers and national resource centers to cover EMHC training would provide resources for the development of sustainable district-level EMHC training sites. Unlike district family planning training centers, however, EMHC training sites must be able to provide clinical training around the clock to maximize learning time. In addition, district midwives and physicians providing labor and delivery services will have to go through the trainer development process if they have not already been developed as family planning trainers. To conduct training for EMHC, dispensaries, health centers and hospitals also will have to be reinforced with equipment and supplies to support the newly trained health workers, and management, supervision and logistic support will have to be strengthened.

Although the number of maternal deaths is unacceptably high, the complications that lead to those deaths are still relatively rare events. In any given country, there may be few, if any, institutions that have a caseload of maternal complications sufficient to train more than a small number of trainees at a time. This is a major problem in a country such as Indonesia, which is committed to training more than 50,000 midwives in EMHC skills in the shortest possible time.

The limited availability of clinical training possibilities for emergency services is only one of several problems in EMHC training. In many countries a clear-cut safe motherhood strategy, and with it a training strategy, has not yet been defined. Without identification of the actions that need to be taken by health service providers to improve maternal health and reduce mortality, there can be no concerted attack on the problem. In addition, comprehensive training materials for the various cadres of health personnel who provide maternal health services are not always available. Where materials do exist, they may not be competency- or performance-based, making them of limited usefulness in the training effort without some modification. Finally, experienced trainers who are familiar with the principles of maternal health care and management of complications are not available in sufficient numbers. Where they do exist, they are not always part of an established training network, capable of training large numbers of maternal health workers on a continuing basis.

#### **Safe Motherhood Program in the Philippines**

Between 1981 and 1991, the maternal mortality ratio in the Philippines declined from 110 to 70 per 100,000 live births (Philippine Department of Health 1995). Despite this dramatic decline, current figures show that on average five or six women die of pregnancy-related causes every day (National Commission on the Role of Filipino Women 1995). In an effort to improve the health status of women and to support the government's long-term goals of reducing maternal mortality and morbidity, in April 1996 the Women's Health Sector of the Philippine government began phasing in a Women's Health and Safe Motherhood Program province by province. Program objectives focus on improving:

- service delivery, including family planning and prevention and management of cervical cancer and STDs;
- institutional development, including training, information, education and communication (IEC) programs, and monitoring and evaluation of project process and impact;
- partnerships between women's health and development, including support to communities and NGOs; and

Maternal mortality and morbidity are tragedies that can and should be avoided. Although 99 percent of the more than half million annual maternal deaths occur in developing countries, most of them could be prevented with relatively low technology solutions already available. The complex problem of how to make motherhood safer includes the clinical problems that cause morbidity and mortality, lack of physical and human resources, inadequate IEC programs and lack of training programs.

# DEVELOPMENT OF A TRAINING STRATEGY FOR ESSENTIAL MATERNAL HEALTH CARE

## What Is a Training Strategy?

A strategy has been defined as a plan to get you from where you are to where you want to go. The process of developing a training strategy can begin with an analysis of the training outputs of institutions, namely, the human resources they have developed. The current status of human resources, conditions under which service providers are working and the eventual outcomes of training all can be assessed. For example, INTRAH is developing a diagnostic process to examine capabilities of practitioners in the field, both currently and prospectively. This process will measure the gap between current and desired practice.

Other factors to be considered in developing a strategy include available resources and the competition for them, cultural and political forces, and national policies and priorities. The most critical element of the strategic development process is its inclusiveness—it must include providers, trainers, supervisors, clients and donors. Often, a strategy can be developed by working backward from the desired outcome and identifying the enabling steps that are necessary to reach the outcome. Finally, a strategy should be as broad as possible and consider as many possibilities as are feasible.

## Six Steps to Developing a Training Strategy for EMHC

- |   |  |
|---|--|
| <b>1. Identify and Include All Stakeholders</b> | It is necessary to know for whom the strategy is being developed.  |
| <b>2. State the Problem or Need</b>             | When improved provider performance is the goal, the following questions should be considered: <ul style="list-style-type: none"><li>■ Is any one factor (e.g., training) sufficient?</li></ul> |

- What is necessary, but not sufficient?
- What is the manageable interest of each stakeholder?
- How will non-training factors be addressed? By whom?

Training is useful only if it leads to improved provider performance. Training is usually necessary, but not sufficient in itself, to attain the goal of improved performance.

### **3. Define Strategic Objectives**

There are many possible objectives of a training strategy. One objective could be to improve maternal health or the health of women in general. The objective could also be defined with reference to mortality statistics, and could be to decrease maternal, perinatal or newborn mortality. Or the goal could be stated in terms of maternal or neonatal morbidity.

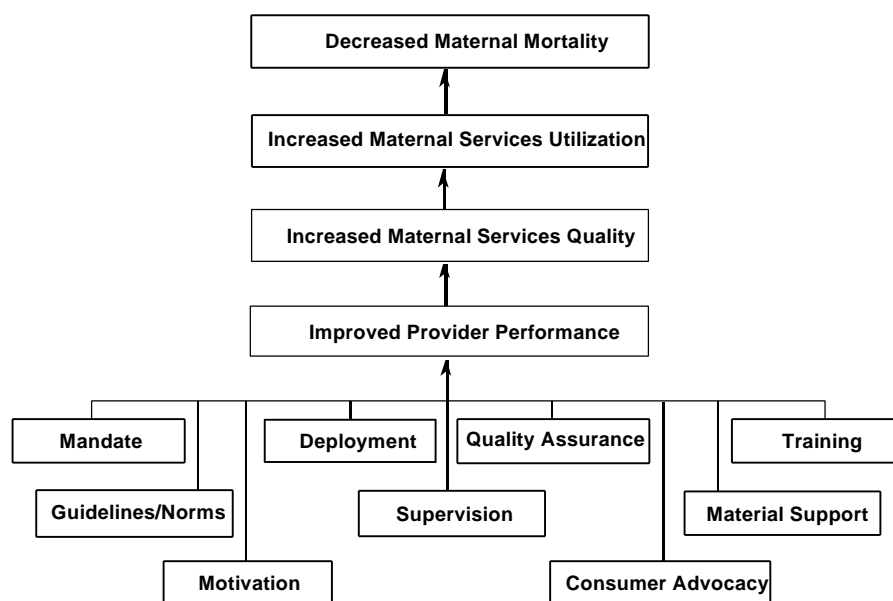
### **4. Define the Causal Pathway to Meet the Chosen Objectives**

Many factors contribute to the goal of improved provider performance (see **Figure 2**). Each is necessary, but not sufficient on its own, to attain the goal. A key factor can be a country's commitment to improve performance, as evidenced by nonrestrictive legislation, supportive regulations and comprehensive, realistic job descriptions. Providers must be motivated to improve their performance. Equitable salaries and other incentives, professional recognition and empowerment of personnel should all lead to improved performance. Deployment of personnel that is appropriate to their training and provides adequate coverage and continuity also may influence performance.

A quality assurance system, consumer advocacy and supervision that is regular, supportive and challenging also contribute to improved provider performance. Clinical standards, protocols and guidelines that are explicit and updated regularly are necessary. Finally, material support in the form of drugs, diagnostics, equipment and supplies must be in place in order for providers to perform at their highest levels.



**Figure 2. Defining the Causal Pathway**



## **5. Determine Strategic Choices to Be Made**

Before a decision about a training strategy is reached, the many strategic choices that are available must be determined and considered. First there is the issue of what cadres should be trained: traditional birth attendants (TBAs), nurses, midwives, physicians, obstetricians/gynecologists, general practitioners, traditional healers or chemists. Next, a decision will have to be made about which groups within the selected cadres should be trained, for example, influential individuals, those with the highest caseload, the youngest, the oldest, those with the most education and experience, or those with certain other prerequisites. The specific knowledge, attitudes and skills required for each cadre to be trained also need to be determined.

Where and when training will take place also have to be considered. The country, region and location (e.g., urban or rural) need to be determined and a decision must be made whether training will be community- or institution-based. Choices about the timing of training need to be evaluated, for example, the season, the time of day and the schedule of training (every day, certain days per week, once a week, etc.).

How training will be carried out involves a number of strategic choices. Will providers be trained individually or in groups? What types of training materials will be used? The approach to training

also must be considered. It can focus on the problem (e.g., hemorrhage, STDs), the service (e.g., prenatal care, delivery, postpartum care), or the skill (e.g., assessment, IV medications, manual procedures).

Choices concerning the management, information and supply/logistical support systems will have to be made. Finally, evaluation criteria must be considered. Evaluation can focus either on the short-term impact, sustainability and cost-effectiveness of training, or can look at results such as process, outcome, impact, quality, coverage and costs.

#### **6. Make Strategic Choices**

Finally, the appropriate elements of the training strategy must be selected from among all the possible choices considered above. For example, will TBAs be trained in 5-week courses, 3-week courses, informed of safe delivery techniques through radio messages, or not trained at all? Will practicing midwives be trained through inservice courses, or will midwifery students be taught EMHC skills as part of their basic training, or both? Will all physicians be required to be able to perform caesarian sections before graduation from medical school, or will selected ones learn the skills on the job?

### **Lessons from the Field**

#### **The MotherCare Approach to Training**

MotherCare has identified the following four steps that are essential in determining a training strategy for EMHC:

##### **1. Determine If Training Is the Answer**

A variety of tools can be used determine if training is the solution to an unmet need for EMHC services. A self-reported training needs assessment can be used, in which health care personnel report on the gaps in training that they perceive. A situational analysis can be carried out in which facilities are evaluated and infrastructure is assessed. A community diagnosis, a qualitative assessment of what women think of health care services and what they feel they need, can also be made. Finally, a quantitative baseline survey can be done. The data from this survey can be used both to determine if a program is needed and later, for comparative purposes, to evaluate change at the end of the program.

The family and cultural environment must be considered in deciding if training is the solution to an unmet need for services. If domestic violence or gender bias keep women from having access to services, training will not solve the problem. If training is determined to be

the answer to a problem, the concept of the high value of women should be incorporated into the training.

## **2. Develop Training Design**

In selecting participants for a training program, program organizers should focus on selecting teams of individuals rather than on specific cadres of service providers. Teams of midwives and doctors, for example, can be successfully trained together in the same skills.

Selection of trainers is very important to the success of the program. All clinicians do not automatically make good trainers; good trainers must be “grown and nurtured.” In addition to being competent in the skills to be transferred, trainers must be able to function as resource persons and role models for the trainees.

### **Postabortion Care in Kenya**

Fertility levels, although decreasing, are still unacceptably high in Kenya, 5.8 percent, and contraceptive prevalence, while rising, is still too low, 29 percent. There is a high rate of unwanted pregnancy and induced abortion (Wanjala, Murugu and Mati 1985). In many hospitals in Kenya, abortion complications result in 30 to 40 percent of all admissions, and abortion complications are estimated to contribute to 30 to 50 percent of maternal mortality (Aggarwal and Mati 1980; Rogo 1989).

In response to this need, the Postabortion Care Program (PAC) began early in 1988, when manual vacuum aspiration (MVA) services were introduced at Kenyatta National Hospital. All gynecology residents, interns, medical students and nurses received on-the-job MVA training, and the postabortion counseling program was expanded. A 2-day PAC course for doctor/nurse teams was developed. More than 5,000 evacuations using MVA were performed in the first year of the program. As a result, the occupancy rate and length of stay at the hospital were sharply reduced, as were mortality and morbidity from induced abortion. Postabortion care programs are now fully integrated into general reproductive health services in most Kenya hospitals, and PAC training is now routinely offered, primarily in preservice settings.

Training content should be determined with reference to national policy. Both clinical and counseling skills should be taught. Instead of focusing on a number of separate health care problems, training

for EMHC should use an integrated approach that considers the entire childbearing cycle.

Training for EMHC must be competency-based. It will have to include extensive practical experience. Presentation of skills by the trainer/role model is as important as the training materials that are used. (For a discussion of competency-based training (CBT), see p. 35.)

### **3. Develop a Plan for Sustainability**

As part of the plan to develop sustainability for the training program, a strategy or mechanism to incorporate new ideas into the preservice educational system should be devised. Part of this effort involves defining standards and protocols for the delivery of EMHC services that can be adopted by the educational institution. A shift from inservice to preservice training also may foster sustainability, since universities are already established to do training.

For an EMHC training program to succeed, a government must have a commitment to safe motherhood. Partnerships among Ministries of Health and Education, cooperating agencies, donor organizations and other groups doing training are critical to sustainability. Through these partnerships roles can be defined, costs can be shared, plans can be made for supervision and followup, and duplication of effort can be avoided. Plans can be made for financial support for programs after the donors are gone. An important step in making programs sustainable is developing in-country trainers. If these trainers are involved in the program from the beginning, they are more likely to feel ownership of the program and continue it after the donor organizations have left the country.

### **4. Develop an Evaluation Plan**

There are two parts to any evaluation strategy: short- and long-term evaluation. A short-term evaluation can use pretests to establish trainees' knowledge before they begin training, and post-tests and skills checklists to assess knowledge, attitudes and skills immediately after training. Long-term evaluation, carried out 6 months to 1 year after training, can show whether training has improved service

providers' practices and overall performance. (For a discussion of evaluating EMHC training, see p. 38.)

**The American  
College of Nurse-  
Midwives Approach  
to Life-Saving Skills  
Training**

The Life-Saving Skills (LSS) training initiative grew out of work done in Ghana by ACNM. The key element is the Life-Saving Skills Manual, which is a continuing education resource for midwives, tutors and midwifery students (Marshall and Buffington 1991). It was designed to give midwives in primarily rural or other isolated settings the knowledge and skills they need to perform life-saving techniques in EMHC. The LSS strategy has five components:

**1. Needs Assessment**

The group considering a training program first looks at the skills in which service providers are currently being trained and the skills which the providers are actually using. A decision is then made about what skills could be added to save lives. Next, any upgrades that are needed to establish a training site are determined. Technical and policy committees that can advise the training program are formed to assist with all elements of the needs assessment.

**2. Site Preparation**

In preparing a site for training, it is advisable to obtain support from policymakers. It is important to choose a training site with sufficient patient volume to permit maximum clinical opportunity. Staff at the training site are trained in use of the partograph, prenatal risk assessment and other techniques they need to know as members of a training center. It is advisable to allow 2 to 3 months for staff members to consolidate skills before the training of trainers begins.

**3. Training of Trainers**

An orientation program for policymakers, administrators and physicians is held as soon as possible after training of trainers is planned. Trainers are chosen for their expert clinical skills rather than their political connections. Training of trainers focuses on attainment of clinical skills, with clinical practice taking precedence

over the classroom portion of the training. Three months should be allowed for trainers to consolidate their skills before they begin training others.

#### **4. Training**

Competency-based training is conducted.

#### **5. Monitoring and Supervision**

All trainees should be visited by a training evaluator within 3 months of completing their training. Evaluators use case study reports, patient records, partographs and prenatal risk assessment forms to monitor trainees' progress, evaluate the impact of training on services and make plans for continuing education.

#### **Lessons Learned from the Life- Saving Skills Program**

The LSS program is most effective when taught within a system of standardized protocols. Policy and technical committees that receive a good orientation to the LSS training can be very helpful in institutionalizing the program. An obstetrician who is very supportive and clinically expert can play an important political role. Inviting national midwifery leaders to attend and actively participate in training also garners long-term support for the program.

Life-Saving Skills training must be competency-based. (For a discussion of competency-based training, see p. 35.) Opportunities must be built into the training for individuals who learn at different paces and in different ways. Life-Saving Skills can be subdivided into basic and advanced skills. Basic skills can be taught in the preservice setting or as a refresher course for service providers.

It is easier to make a trainer from a strong clinician than to make a strong clinician from a trainer. Trainers must be chosen for competency and currency in practice and be allowed to stay in the clinical area after training. It is important to include preservice faculty on the training team. Although in some countries there is resistance to midwives becoming trainers and training physicians, midwives usually make excellent trainers.

In order to provide effective ongoing monitoring and supervision, supervisors must receive a strong orientation to LSS or, ideally, take the full LSS training. When trainers are included on the supervision team, training is strengthened because they see the realities of the field and any difficulties encountered in applying LSS to the work situation.

#### **Maternal Mortality and Maternal Health Services in Thailand**

The maternal mortality ratio in Thailand has fallen dramatically from 640 per 100,000 live births in 1960 to 10 per 100,000 live births in 1993. Thailand's total fertility rate has decreased from more than 6.3 in 1970 to 1.9 in 1994, and the population growth rate has decreased from 2.5 in 1972 to 1.19 in 1995. The contraceptive prevalence rate was 75 percent in 1994 (Thailand Ministry of Public Health 1994).

These improvements in the maternal health situation are the result of efforts by the Ministry of Public Health in the last decade to strengthen maternal and child health services at all levels. Women have been encouraged to seek prenatal care, the risk approach has been used effectively, service delivery has expanded, personnel have been trained, postpartum care has improved and family planning services have increased. In general, the effort to improve maternal health status in Thailand has succeeded because of strong political support, effective IEC programs, accessibility and variety of contraceptive methods, outreach to underserved groups, the presence of nonmedical providers, a goal-oriented approach, flexibility in adjusting to change and overall good management.

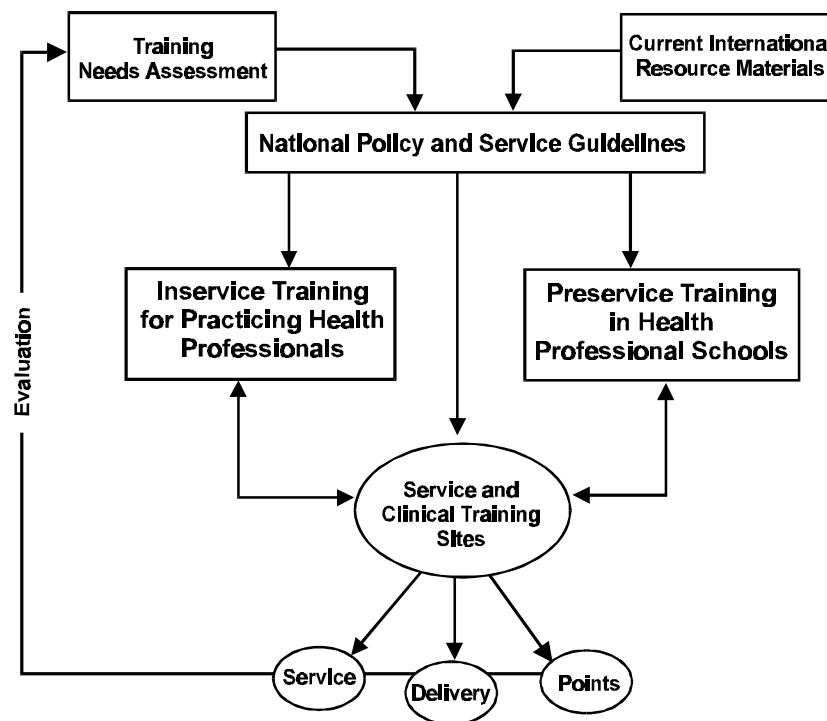
#### **The JHPIEGO Family Planning Training Model and Its Application to Training for EMHC**

One of the most important lessons that JHPIEGO has learned from more than 20 years of field experience is that to have a lasting impact, training cannot take place as a series of isolated events. Instead, they must be integrated into a larger framework. Integrated reproductive health training may be viewed as a network of pathways aimed at linking the national system of higher education, the health care system, the political system and cultural norms in order to strengthen reproductive health policy, training and services (de Castro Buffington 1995).

*The Framework for Integrated Reproductive Health Training* (see **Figure 3**) developed by JHPIEGO joins a country's educational and health systems to focus on the preparation of a cadre of providers who are able to deliver standardized, high quality services. Preservice and inservice training are coordinated in the model. Service delivery and clinical training are guided by a single set of nationally accepted service guidelines reflecting up-to-date national policy. Implementation of this model in a number of countries has

demonstrated that it is appropriate and effective in addressing reproductive health training and service delivery needs. It is suggested that this framework, which has been effective in the area of family planning, can also be used as a model for EMHC training. Such a framework can help to institutionalize training and ultimately foster sustainability.

**Figure 3. Framework for Integrated Reproductive Health Training**



A four-step process to transfer specific clinical skills and knowledge from trainers to service providers has been successful in family planning training. The following steps also can be part of the process of developing an EMHC training strategy within a country:

- Standardize the provision of clinical services, and modify and adapt existing training materials as necessary.
- Train service providers to provide these services competently, according to the approved standards.
- Identify and prepare proficient service providers to function as clinical skill trainers so that they are able to train other service providers.



- Identify and prepare clinical skill trainers to function as advanced and eventually master trainers so that they are able to train other clinical skill trainers, evaluate training and develop or revise course materials.

# TRAINING FOR ESSENTIAL MATERNAL HEALTH CARE: PROBLEMS AND APPROACHES

## Who Should Be Trained?

A fundamental issue to be addressed in planning any training intervention is: who needs to be trained? In training for EMHC, personnel at all levels of the health care system—community, health post, primary health center, district hospital—may need training, including community health workers, TBAs, nurses, midwives, general practitioners and ob/gyn specialists. At present, many individuals who should be trained in EMHC are not receiving the training they need (e.g., physicians), while others for whom a training approach is not appropriate are receiving training (e.g., some TBAs who perform only one or two deliveries a year).

Whether TBAs should be trained is not an issue that can be decided globally; the decision must be made individually by each country. In some countries, TBAs may perform many deliveries, in others each TBA may do only a few each year. In some countries and regions, TBAs are well integrated into the health system (e.g., Ceará, Brazil), in other countries they are not. The amount of training and supervision they receive also varies widely by country. Therefore, countries need long-term strategies for TBA training that are specific to their situations. A country with a stable or growing population of TBAs will have a different approach to training than a country where the numbers of TBAs are dwindling. Clearly, TBAs should be trained primarily in those countries or regions where they are most active and there is the greatest potential for their use.

In addition to health care personnel, the community itself may need to be educated. Community leaders and residents need to learn about recognizing pregnancy and its risks, nutrition, hygiene and early recognition of complications. The community also must be educated about what to expect from each category of its trained providers and each level of service.

### **TBA Training in Ceará State, Brazil**

Although data for Brazil as a whole show a decrease in maternal mortality, in Ceará State maternal mortality is on the rise. In 1994, 75.6 percent of maternal deaths in Ceará were attributed to inadequate care, and this figure rose to 86.2 percent in 1995. Toxemia, hemorrhage and infection were the three main causes of maternal mortality (Ceará State Health Department 1996).

In the past, rural women in Ceará State with simple obstetric problems were frequently referred inappropriately to the city for care. At the same time, many rural women needing care at a higher level facility were arriving at the hospital too late to be saved. To correct this problem, a program focusing on traditional birth personnel was initiated with the cooperation of local community leaders. This program emphasized care to mothers and children under 5 who lived in areas deprived of medical assistance.

Traditional birth attendants were identified and trained to manage rural units or to assist home deliveries, and a referral system was established whereby high-risk patients could be transferred to secondary level health posts or tertiary level hospitals. Traditional birth attendants are now trained to provide normal prenatal care, including tetanus immunization and iron supplementation, and screening of high-risk patients. The key to the program's success is a functional referral system and weekly visits by health personnel to ensure high quality prenatal care for high-risk patients.

## **What Training Is Needed?**

Personnel need to be trained in the knowledge, attitudes and skills that will have the greatest impact on maternal health. The basic elements of maternal care are routine prenatal care, routine obstetrics, emergency obstetrics, manual removal of the placenta, postabortion care, family planning and infection prevention.

The group agreed that the following essential skills or skill areas need to be available at all levels of the system, regardless of the type of caregiver available or level of facility at which the care is given:

- risk assessment
- recognition of complications
- the 3 elements of clean delivery: clean environment, clean instruments for cord cutting, clean hands
- atraumatic delivery
- early breastfeeding
- client education
- family planning counseling

■ care of the newborn

**Table 1** shows the skills or skill areas in EMHC, as well as the type of personnel that should be available, at each level of the health care system.

**Table 1. Essential Maternal Health Care by Level of Care and Staff Available**

LEVEL	STAFF	EMHC TO BE PROVIDED
Community: clients family	Community health workers Elders Leaders Family	First aid Decision-making about seeking health care Transport Funding Preparedness for emergencies
TBA	TBAs with wide variety of education, training, experience	Iron folate distribution Family planning—condoms, pills Management of postpartum hemorrhage: abdominal massage of uterus; bimanual compression; urination; nipple stimulation; controlled cord traction Treatment of sepsis Oral rehydration Identification of risks and complications
Primary health center, Level 1, without beds: dispensary, health hut, birth hut	Community health workers Nurses Midwives	Identification, stabilization and referral for postabortion care Manual removal of placenta Injections of tetanus toxoid, oxytocin (postpartum), antibiotics IV fluids Recognition of prolonged or obstructed labor Recognition, sedation and referral for eclampsia Infection prevention
Primary health center, Level 2, with some beds: no doctor on staff	Community health workers Nurses Midwives	Postabortion care: provision of MVA and referral for complications Partograph Sedation and referral for eclampsia Examination of birth canal Repair of lacerations to cervix and vagina
Primary health center, Level 2, with beds: general practitioner on staff, surgical facilities available at or near facility	Community health workers Nurses Midwives General practitioners	Assisted delivery Treatment of eclampsia Limited vacuum extraction

First referral site: district hospital	Nurses Midwives General practitioners Specialists: ob/gyns, pediatricians Anesthetists (nonphysicians) Laboratory technicians	Complete postabortion care Treatment of life-threatening situations Vacuum extraction Caesarean section Laparotomy Blood transfusion Autotransfusion
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*Adapted from: WHO 1994a.*

The group agreed that there must be consensus at the national level about what skills are included in EMHC. After consensus is reached, guidelines must be developed to define terminology and skills, and training materials and curricula must be developed to transfer the skills. It is critical that changes in skills training be incorporated into preservice training for nurses and midwives. The problem of providing inservice training to practitioners who are already working and may be geographically scattered must be addressed.

Service needs at the local level should be the guiding principle in integrating maternal health training into national training systems. The district model should focus on functional unit levels rather than cadres of personnel. Because one functional unit or district could have four different health providers while another unit could have two, for example, it is important to focus on training the team, not the cadre. The group agreed that the following questions about district-level readiness need to be addressed: What should a district level maternal health care system look like? What kinds of personnel are needed? What is the standard of care for the district? What differences are there between rural and urban areas?

### **Matrones Training Initiative in Haiti**

Maternal mortality continues to be a serious problem in Haiti. A recent study (Barnes and Augustin 1993 ) estimated the maternal mortality rate at 456 per 100,000 women of reproductive age. About 11,000 community health workers, or *matrones*, work in Haiti. Although they are the point of first reference for obstetric and pediatric cases, they receive no preservice training or supervision. In fact, only 25 percent of these caregivers have had any training at all (Institut Haïtien de l'Enfance 1994–95). It is estimated that over 50 percent of deliveries in rural areas, where two thirds of the population lives, occur with the help of these untrained personnel.

Because of this situation, a pilot project for “Training and Coaching of *Matrones* for Safe Delivery” was designed and put into action in 1990 as a joint project of the United Nations Development Programme (UNDP), Pan American Health Organization (PAHO)/WHO and the Haitian Government. Then, after a 3-year delay due to sociopolitical problems, a new training program for the *matrones*, designed to last for 4 years, was started. This program provides for the implementation of a national program in the nine Departments (States) of the country to train 2,000 new *matrones* and to give update training to 1,000 who were trained previously. With a view toward integrating the *matrones* into the health care delivery system, the curriculum for their training includes four modules: prenatal care, delivery, postpartum care and epidemiological surveillance. Currently 133 training sessions and 66 update training sessions are in progress.

The group concluded that needs assessments should be conducted to get a picture of the situation in a community and what training interventions would have the most impact. Rapid surveys can be carried out to provide data on available resources, supervisory capabilities and the content of the training that is needed. Information about causes of maternal health problems also is needed. For example, knowing the underlying causes of a condition such as maternal hemorrhage will affect decisions about what type of training is needed and to what level of personnel it should be directed.

## **How Should Training Be Conducted?**

There often is a disparity between the training setting and the work setting. Training must be relevant to the level where it will be used. It must be realistic and appropriate, and problem-oriented rather than disease-oriented. Ideally, the training site is a service delivery site similar to that where the trainees will be working after they finish their training. It is important that training at a national training center be essentially the same as that at a provincial or district level training center. It also is preferable that trainers be

active service providers in the area of labor and delivery; unfortunately, in preservice settings that is often not the case.

The group agreed that service providers need to be taught how to make clinical judgments. To train personnel in decision-making skills, trainers can use standard protocols; case studies; role plays; discussion guides; simulations with anatomic models; and clinical experience with post-clinical conferences to review decision-making components. Evaluation of trainees' problem-solving and clinical skills can be carried out using written guidelines, performance checklists, problem-solving exercises and objective structural clinical evaluations.

It is desirable to do as much preservice training as possible with models, thereby reducing the time needed for training in the hospital or clinical area. There should be more emphasis on training people to make inexpensive models. Models can be useful in training in the following skill areas: delivery; manual removal of the placenta; postpartum IUD; bimanual compression of the uterus; urinary catheterization; use of IV lines; suturing; and resuscitation of the adult and newborn. Evaluation of models must also be considered.

Another issue to be addressed is how providers will acquire and maintain skills related to uncommon conditions. There may be very few cases of certain maternal health problems that service providers are nevertheless expected to deal with when they occur. It is especially difficult for providers to maintain their skills in outlying areas where communication with personnel in other areas is limited. In some instances, they could be attached to a health center for periodic refresher training. Simple, easy-to-use anatomic models could also help service providers acquire and maintain competency in such skills as bimanual compression of the uterus, manual removal of the placenta and suturing. The group agreed that some kind of system of qualification and requalification in safe motherhood skills is needed.

## How Can Training Be Made Competency-Based?

To date, training for EMHC has not always been competency-based, although training conducted with ACNM's Life-Saving Skills Manual and WHO's midwifery modules is a notable exception. Competency-based training is distinctly different from traditional educational processes. Competency-based training is learning by doing. It is based on the social learning theory that when conditions are ideal, a person learns most quickly and effectively from watching someone else perform (model) a skill or activity, then performing it under supervision before doing it alone. Competency-based training provides health workers with the abilities that are vital to the successful performance of their jobs. It emphasizes how the participant performs (i.e., a combination of knowledge, attitudes and, most important, skills) rather than what information the participant has learned. Competency-based training requires that the clinical trainer facilitate and guide learning rather than serve in the traditional role of instructor or lecturer (Sullivan et al 1995).

Models and simulations are used extensively in CBT courses. In traditional courses, evaluation typically involves administering knowledge-based tests. Although knowledge-based assessments can be used in CBT to measure mastery of information, the primary focus is on measuring mastery of skills. These elements of CBT that have been effective in a variety of training settings can be applied to EMHC training.

The consensus of the group was that the approach to EMHC training should be competency-based and flexible, and that training in emergency skills and periodic updates should be a part of training. Clinical training for safe motherhood with actual clients may be difficult because some of the events that personnel will encounter are relatively rare. Consequently, use of models is even more important in safe motherhood than in family planning. It would be useful to identify those skills that can be taught successfully with models when clients are not available.



## What Are the Gaps in Training Materials?

Training materials for EMHC should include information on the five primary causes of maternal mortality (hemorrhage, obstructed labor, unsafe abortion, infection and eclampsia—WHO resource documents exist for all of these topics), infection prevention, infant resuscitation and community IEC. Additional important content areas include: prenatal care, labor and delivery, postpartum care, newborn care, STDs, anemia, breastfeeding and family planning.

The primary groups developing EMHC materials are ACNM (including the Life-Saving Skills Manual), MotherCare and WHO. (See **Appendix C** for a list of selected EMHC training materials developed by ACNM, INTRAH/PRIME and MotherCare.) The WHO materials include reports of meetings, tabulations of available information and training modules addressing the five main causes of maternal mortality. IPAS (International Projects Assistance Services) has developed materials on postabortion care. Most other materials have been developed to address needs identified in a specific country. There are no evaluations of materials currently in use to determine how effective they are. It may be that the existing materials cover essential content and what is needed now are innovative approaches for how to use them most effectively.

There are many separate materials developed by different agencies, but nothing in terms of EMHC principles universally applicable and acceptable to all levels of providers on how training should be carried out. Each agency appears to use material, including that developed by others, in its own way. The group agreed that a common approach based on CBT principles should be adopted by all agencies. Such an approach should be inexpensive, participant-oriented, designed for as wide an audience as possible and use common, accepted definitions. Training materials need to be part of the overall EMHC system and should be consistent in terminology, approach and structure.

### **Maternal Mortality and Maternal Health Training in Cameroon**

Maternal mortality is high in Cameroon. The World Health Organization estimated the national ratio as 430 maternal deaths per 100,000 live births in the 1980s (WHO 1991). Data from the Central Maternity Hospital in the capital of Yaoundé show the main causes of death to be similar to those elsewhere: hemorrhage, sepsis, anemia, pulmonary embolism, hypertensive disease of pregnancy and ruptured uterus (Leke 1987).

The Central Maternity Hospital, however, experienced a marked reduction in maternal mortality between 1975 and 1985, from more than 200 to only 60 deaths per 100,000 live births during that period. An initiative was begun in 1975 to deal aggressively with the problem of maternal mortality. The approach involved risk assessment, prenatal surveillance, intrapartum care including use of the partograph and active management of the third stage of labor, and postpartum care including referral to a family planning clinic for high-risk women. Training for this initiative was given to medical, nursing and midwifery students. Eventually it also was extended to residents in obstetrics and gynecology. The various cadres of providers were trained in family planning methods, identification of risk factors, use of the referral system, the team approach, infection prevention and use of the partograph.

As a result of the success of this approach in Yaoundé, it was decided to apply resources and strategies to the rural areas where about 65 percent of the population lives. Service providers and TBAs working in the clinics within the rural communities were trained in the risk approach and taught to identify risk factors. Community members were taught to recognize early signs of complications and self refer themselves to their local health centers. A substantial increase in clinic use was observed in the study zones—evidence of the effectiveness of this multidisciplinary approach to maternal health care (Leke et al 1988).

Most of the materials developed to date are for midwives and nurse-midwives; materials for physicians are limited. For physicians, refresher material for basic skills and knowledge is needed; more important, it must be “packaged” (or delivered) in a way that will make them want to read and use it. The need for information and education for physicians (general practitioners and obstetricians/gynecologists) also is critical in order to gain their support for midwives as essential care providers and their understanding of the scope of care provided by midwives.

Information and education for village health workers is needed more to inform them about services that are available, the roles of other providers and how to identify women at risk, than to teach them about actual delivery care. There is an abundance of material developed for training TBAs, but almost all of the material is for the trainer.

Several members of the group suggested that an EMHC consortium

should develop a prototypic document that could be adapted for different levels of provider. Some thought that ACNM's LSS materials could serve as a basis for this. Core material would be essential content for nurse midwives; additional material would be aimed at general practitioners, with the most specialized material targeted at obstetricians/gynecologists. Cumulatively, the material would form the basis for policy guidelines and standards.

## How Can Training Be Evaluated?

The purpose of evaluation in EMHC training is to determine whether training makes a difference in reaching the ultimate goal of reducing maternal mortality.

Process evaluation, also called performance evaluation, focuses on program or project implementation. It addresses operational issues through data generated at the program/project level, and the relationship between inputs and outputs. Outputs of a training program that correspond to the training processes could include the following:

- New or revised curriculum or course schedule
- New or revised training materials
- Adequate training sites
- Competent providers
- Competent trainers
- Able supervisors
- Trained supervisors with reinforced skills

Outcome evaluation measures the effect of the program on the ultimate target audience. This level of evaluation focuses on intermediate or ultimate outcomes. It addresses linkages between program-level measures and measures of effect on the target population. Possible training outcomes are:

- Increased availability of services
- Improvement in quality and quantity of services

- Expanded range of services
- Increased use of services
- Reduced morbidity or mortality

The group agreed that training interventions can be linked to selected process indicators such as the number of EMHC courses by provider category; the number and type of providers trained in EMHC; the number or percentage of providers trained in EMHC who use their skills after training; and the existence of a competency-based training system (preservice, inservice or integrated) for EMHC. Selected outcome indicators could include the extent to which the need for emergency obstetric care was met or the percentage of women with obstetric complications treated within a certain number of hours of admission to a health facility. Outcome indicators could also be defined in terms of mortality, such as the percentage of hospital maternal deaths occurring 24 hours or more after admission, or the case fatality rate among complicated obstetric cases in a facility. The number of facilities providing EMHC (for specified population sizes) could also be used as an outcome indicator.

# CASE STUDY: ADDRESSING MATERNAL MORTALITY IN INDONESIA

## Maternal Mortality

The maternal mortality ratio (MMR) for Indonesia, 450 per 100,000 live births in 1986 (or about 20,000 mortalities per year), declined very slowly in the last decade to 420 per 100,000 live births in 1995. The MMR varies widely among provinces, from 130 to 750 per 100,000 live births. This figure is three to six times the MMR in other ASEAN (Association of Southeast Asian Nations) countries, and 50 times that in developed countries. Over 90 percent of maternal deaths are caused by the “classic trio”: hemorrhage (40 to 60 percent), infection/sepsis (20 to 30 percent) and toxemia (20 to 30 percent). Data on abortion are not available, but deaths from abortion are known to be high, representing between 10 and 15 percent of maternal deaths. Additionally, approximately 60 percent of pregnant women suffer from anemia. Seventy percent of births take place at home; most of these are attended by midwives.

Indonesia’s infant mortality rate has declined sharply from 142 infant deaths per 100,000 live births in 1968 to 57 per 100,000 in 1992. The total fertility rate also has declined steadily since the early 1970s. The 1994 level of 2.85 children per woman of childbearing age is approximately half the 1971 rate of 5.61 children per woman. Fertility has declined in all age groups in Indonesia. The pattern of age-specific fertility rates is the same as in the past except that the peak in fertility has shifted from age 20–24 to age 25–29. The contraceptive prevalence rate (CPR) has been rising steadily since the 1980s. The CPR attributable to modern contraceptive methods was 48 percent in 1991 and rose to 52 percent in 1994 (Indonesia Demographic and Health Survey 1994).

## Safe Motherhood Program

In 1993, the Indonesian government developed Broad State Guidelines with the goal of improving the health status of the community and the quality of human life. The maternal health program set targets for maternal and perinatal mortality and a number of related

components of maternal care. Goals include reduction of the maternal mortality ratio to 225 per 100,000 live births by 1998–1999; improved access to and coverage of prenatal care, attended delivery, and tetanus toxoid; and reduction in iron deficiency anemia.

The policy to support the safe motherhood initiative has eight components:

- Strengthen leadership and political commitment
- Improve quality and coverage of maternal health services
- Develop management information systems from the community to the central level
- Develop human resources, including the skills of community midwives
- Apply appropriate technology
- Support community institution activities related to the family welfare movement
- Encourage social marketing and community mobilization activities
- Conduct operations research

The strategy to accelerate the reduction in maternal mortality involves mobilization of district health teams. These teams are responsible for planning health care, with an emphasis on activities that have already been proven effective. Teams have intensified efforts to improve health clinics and the referral system; strengthened the network connecting the district health office, hospitals and health clinics; and improved the district hospital's capability to provide comprehensive emergency obstetric care. A goal of the initiative is to improve the service delivery system to the extent that 60 per- cent of health centers would provide comprehensive maternal and child health care, 60 percent of obstetric complications would be managed and 60 percent of deliveries would be attended by health personnel. Other strategies to reduce maternal mortality involve applying a quality assurance system, improving IEC efforts for several target groups, strengthening community participation and strengthening the referral system for both mother and newborn.

## Midwifery Training

The Bidan di Desa, or Village Midwife, Program is the cornerstone of the government's efforts to improve the quality of maternal and child health services and thus reduce maternal and perinatal mortality. At the outset of the Government's Fifth Five-Year Plan (Repelita V), the initial strategy was to train 18,000 midwives. The number was subsequently increased to the current goal of 54,000 midwives (one midwife for every village in the country) to be trained by the end of 1996.

### **Preservice Midwifery Education**

There are three tracks in the current midwifery education program, each with a different entry requirement. All nursing and midwifery education is regulated by the Department of Health (DepKes). Schools are required to utilize the core curriculum developed by DepKes, although individual schools are permitted to modify the course schedule within the requirements and are able to develop their own lesson plans.

Most schools lack up-to-date reference materials to assist teachers with planning specific content. Likewise, materials for learners are out-of-date and in short supply. Existing materials also appear to be inconsistent with competency-based instruction. For example, lesson plans rely on student completion of a specific number of procedures, instead of requiring the learner to perform a service correctly, and learning guides for facilitating competency-based learning are not yet incorporated into the basic education programs.

The accelerated program for preparation of midwives is an enormous undertaking by the Ministry of Health. The program is central to its goal of making maternal and child health care more accessible to the population by placing a trained midwife in every village. Once the midwives are placed in the villages, however, issues arise about their utilization, effectiveness and overall sustainability.

### **Inservice Training in EMHC**

In response to multiple studies and reports about village midwives' limited skills in providing care for women and children, a number of training activities were initiated for them. The most significant of these activities to improve maternal health care is the ten-module

LSS course, developed by the ACNM and translated into the Indonesian language in 1993–1994. After the procedures were reviewed and adapted to fit the Indonesian health policies and situation, multiple LSS training activities were conducted, although not all activities used ACNM's LSS training methodology.

In the government's continuing efforts toward safe motherhood, inservice training is supported to ensure that health care workers have sufficient technical capabilities to provide maternal health care

services. Nearly 5,000 village midwives in 13 provinces participated in 2-week training courses at the district hospital level.

One lesson learned from this training was that many village midwives do not have the basic skills in midwifery necessary to take full advantage of such training. Some village midwives were found to lack knowledge and skills in basic midwifery care, while others were found to have such low caseloads as to raise the question of whether they will be able to maintain their skills in practice after the training. There is currently no assessment tool to screen course participants to determine whether they are ready for training in more advanced midwifery skills.

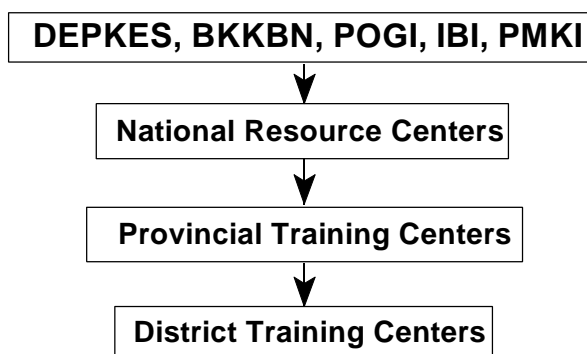
Another finding from the course was that although hemorrhage is one of the leading causes of maternal death, and prevention and treatment of hemorrhage is a module of the course, none of the midwives who participated in the training evaluation demonstrated safe practice knowledge in either the diagnosis or management of hemorrhage. Given the importance of this health problem to maternal mortality, more emphasis is needed during training to ensure competence in this clinical care.

## The National Clinical Training Network

Indonesia has recently developed a National Clinical Training Network (NCTN) for reproductive health. This network, when complete, will unify the many clinical training sites throughout the country, standardize clinical training for reproductive health personnel and institutionalize competency-based clinical training. Although the network is not a part of the safe motherhood



initiative yet, it could function as an existing infrastructure into which EMHC could be integrated. The structure of this network is shown in **Figure 4**. The professional associations, at the top of the diagram, provide overall management of the network for clinical training supported by the government. The network currently comprises two national resource centers in Jakarta and Surabaya, eleven provincial training centers and, within each province, five to ten district training centers.



**Figure 4. The National Clinical Training Network**

Five steps are being taken to improve the training situation in Indonesia: standards are being unified; CBT is being introduced; and planning, coordination and supervision each are being strengthened. The following essential issues are being dealt with so that the NCTN will be able to conduct clinical training effectively:

- Preparation of facilities: space, equipment, caseload
- Planning of courses: materials, models
- Selection of trainers: clinicians, faculty
- Training of trainers: clinical skills, training skills
- Preparation of staff: clinical skills, infection prevention

Sustainability of the NCTN continues to require full support from the government as well as from outside donors in order to function and grow. Maternal health is a very complex, but not insurmountable, problem. To improve maternal health status, existing systems can be used and strengthened.

## Agency Collaboration with the Indonesian Government

There are many international organizations, including the Asia Development Bank, United Nations Population Fund (UNFPA), USAID, the World Bank and WHO, working in partnership with the Indonesian government to improve EMHC. Following are examples of initiatives by the World Bank and MotherCare to improve the maternal health situation in Indonesia.

### **Safe Motherhood Initiative: Partnership with the World Bank**

In Indonesia, the World Bank found a very good situation with regard to family planning services, but a high maternal mortality ratio. Thus the World Bank entered into partnership with Indonesia in its safe motherhood initiative. Both partners view the initiative as more than a service delivery project.

Accomplishments thus far include increased age at marriage; improved reproductive health education, prenatal care capacity and family planning method mix; increased demand for family planning; increased immunization of newborns; and strong political commitment. Examples of project objectives still to be met are a further increase in age at marriage from 18 to 20 years; further improvement in health education, particularly concerning STDs and HIV/AIDS; reduction in the unmet need for family planning by 50 percent; reduction in anemia from 70 percent to 35 percent; and an increase in maternal immunizations to 80 percent. These are just a few of the efforts directed at the overall goal of reducing the maternal mortality ratio from 420 to 225 per 100,000 live births and reducing perinatal deaths by half during the next 5 years.

The chief demand-side obstacles to achieving the partnership's objectives center around family and community attitudes toward early marriage; attitudes toward reproductive health education for young people; community members' lack of understanding about potential

risk factors and their rights to high-quality information and services; and cultural taboos about health matters. The chief supply-side obstacles to achieving the objectives are a lack of community and NGO involvement; poor service quality and limited access in certain areas; limited provider skills; inadequate IEC activities to promote healthy behaviors; and a lack of necessary medicines for treatment of infections.

**Lessons Learned in  
MotherCare I and  
MotherCare II  
Projects**

**Tanjungsari Project, University of Padjadjaran**

The Tanjungsari Project was the most comprehensive project undertaken by MotherCare I. One component of this project was an effort to decrease the frequency of home births. To this end, an extensive network of services was put into place, including birthing huts with two-way radios, a transport system, an IEC campaign and TBA training. In spite of these efforts, the percentage of home births decreased only from 96 percent to 85 percent. Home birthing remained the strong preference of the rural community because delivery was seen as a natural event that should rightly occur at home.

Introduction of the birthing huts increased coverage for prenatal care, but the huts did not serve as a site for delivery. One possible reason was that midwives were not available to staff the birthing huts full time. Consequently, a birth at the hut would often be attended by a TBA, who could just as easily attend a woman at home where her family would be present.

Many of the women choosing to give birth at home had complications. Unfortunately, training TBAs to recognize and refer complicated obstetrical cases was not effective. The TBAs felt their credibility was being questioned, and hence they stopped referring. Furthermore, the family members made the decision about whether the mother should be taken to the hospital when she suffered complications.

**Surabaya Safe Motherhood Project, Dr. Soetomo Hospital**

This project focused on prenatal risk. Prenatal risk scores were determined for pregnant women based on demographic factors and obstetrical history. The scores classified women as low-, high- or

very high-risk for perinatal or maternal mortality. Scores remained basically unchanged throughout women's pregnancies for a number of reasons: community women were not informed that complications had occurred; they were unable to recognize complications; or they did not suspect complications based on edema and bleeding.

No assessments were made of risk during labor, delivery or in the postpartum period. Sensitivity of the tool when high- and very high- risk groups were combined was 65 percent for maternal mortality and 53 percent for perinatal mortality, with specificity 68 percent and 69 percent respectively. Because these events were rare, the positive predictive values were 0.65 percent for maternal mortality and 6.8 percent for perinatal mortality.

Compliance with advice on where to deliver according to risk assessment was low: 90 percent of the high-risk and 74 percent of the very high-risk women in rural areas delivered at home.

### **Alleviation of Maternal Anemia in Indramayu, University of Indonesia**

In this project, using TBA homes as depot sites for distribution of iron folate tablets increased coverage from 51 percent to 93 percent. Compliance increased average pill taking from 24 to 62 pills during pregnancy. Similarly, an IEC campaign directed at using government clinics for distributing iron folate tablets increased coverage from 51 percent to 86 percent and doubled compliance from 24 to 48 pills during pregnancy. When IEC was added to the TBA home distribution scheme, coverage increased from 93 percent to 96 percent and compliance from 62 to 66 pills. Compliance issues will be addressed to a greater extent in future projects.

### **MotherCare II Project, South Kalimantan**

This project is being carried out in three districts of South Kalimantan province: Banjar, with a population of 492,325; Hulu Singai Selatan, with a population of 186,677; and Barito Kuala, with a population of 227,000 (1993 statistics). The project has the following objectives:

- Improve the use of appropriate services for women and new-

borns with obstetrical and neonatal complications respectively

- Reduce the level of anemia among pregnant women
- Reduce in pregnant women the level of infections that have an impact on the health of women and the outcome of pregnancy
- Introduce effective methods of family planning into postpartum care, as well as family planning counseling in prenatal settings

The project involves five key interventions:

- Two hundred thirty bidan di desas (village-level midwives) and 50 bidans (senior midwives) are being trained in LSS skills, anemia, reproductive tract infections and postpartum contraceptive counseling.
- Maternal and perinatal audit systems are being introduced to improve clinical management capabilities of hospital doctors.
- An IEC strategy is being developed and implemented to increase community awareness about obstetric complications, health-seeking behavior and the importance of iron folate consumption to reduce anemia.
- A record keeping system for hospitals and bidan di desas is being introduced to monitor maternal and neonatal health complications and their management.
- Standard protocols, training curricula and diagnostic tools for reproductive tract infections are being developed in an effort to reform policies related to maternal and neonatal health. This intervention involves continual dialogue with the Central and Provincial Ministries of Health.

### **Indonesian Midwifery Association (IBI) Program**

MotherCare II also is undertaking a program to strengthen the organizational management capabilities of the Indonesian Midwifery Association (IBI) at the national level as well as the province level in South Kalimantan. A needs assessment of IBI's organizational

structure and management capability was carried out, focusing on the entire organization from sub-district to national level. Workshops were held at both the national and provincial levels. The Association's office system was strengthened and a membership directory was published. The Association's peer review and fundraising programs are being improved and other activities are being conducted to expand IBI's professional role. In South Kalimantan, MotherCare is working to expand IBI's capability to provide continuing education to its members in order to improve their clinical, managerial and monitoring skills.

# RECOMMENDATIONS AND CONCLUSIONS

## Policy Considerations for EMHC Training

- A country's government, including the Ministries of Health, Education and Women's Affairs, must be committed to improving EMHC. As a result of this commitment, broad training strategies must be developed that consider available resources, cultural and political forces, and national policies and priorities. It is critical that the strategic development process include all involved personnel—providers, trainers, supervisors, clients and donors.
- There must be consensus at the national level about what skills are included in EMHC. Required procedures should be identified at each level of the service delivery system. Once providers agree on the types of services and procedures to be undertaken, where and by whom, clinical standards should be developed for each service or procedure.

## Training Issues

- Service needs should be the guiding principle in integrating maternal health training into national training systems. The district model should focus on functional units rather than cadres of personnel.
- Training must be competency-based and relevant to the level where it will be used (labor and delivery unit of maternity hospital, health center or home, as appropriate). It should be problem-oriented rather than disease-oriented. Anatomic models should be used in training whenever appropriate and possible.
- Before any preservice or inservice training programs are begun, a needs assessment should be carried out to determine what training is needed and which personnel need training.

- Inservice training should not be considered separately from preservice training and the service delivery system. Both inservice and preservice training should be driven by the community's health needs. As basic education programs for health providers are strengthened, the need for inservice training should diminish. A national task force or working group may be useful in guiding inservice and preservice training.
- Personnel need to be trained in the knowledge, attitudes and skills that will have the greatest impact on maternal health. Skills for prevention, early detection and prompt treatment of hemorrhage, anemia, prolonged and obstructed labor, and sepsis also need to be strengthened. The problem of providing skills training for relatively rare complications must be addressed.
- Training must emphasize critical thinking and problem-solving skills. These skills are as essential as technical skills, and must be applied before any technical intervention is made.
- Trainers must possess clinical knowledge, skills and experience in the subject area in which they are training others. A trainer who is not experienced in a clinical procedure should not attempt to train others in that procedure.
- Training should be evaluated by examining outputs of a training program and outcomes that measure the effect of the program on the target audience.

## Training Materials Development

- Training materials are an integral part of the training system and must be developed in synchrony with the other parts.
- Training materials for EMHC should be integrated into reproductive health materials, rather than be considered as a separate subject.
- All agencies developing training materials for EMHC should use a common approach based on the principles of competency-



based training. Terms and approaches used in training materials for EMHC need to be standardized (e.g., EMHC, life-saving skills). New materials need to have a consistent message; collaboration among developers is therefore essential.

- A database or clearinghouse of training materials for EMHC is needed in order to identify gaps in what is available and for which cadre of providers materials should be developed.

# REFERENCES

Aggarwal VP and JKG Mati. 1980. Review of abortions at Kenyatta National Hospital, Nairobi. *East African Medical Journal* 57(2): 138–143.

Barnes D and A Augustin. 1993. Maternal mortality study (unpublished data).

Ceará State Health Department. 1996. *Maternal Mortality Statistics*. Ceará State Health Department: Ceará, Brazil.

de Castro Buffington S. 1995. A framework for establishing integrated reproductive health training. *Advances in Contraception* 11: 317–324.

Herz B and AR Measham. 1987. *The Safe Motherhood Initiative: Proposals for Action*. World Bank: Washington, D.C.

Indonesia Demographic and Health Survey. 1994. *Demographic and Health Survey*. Central Bureau of Statistics: Jakarta, Indonesia.

Institut Haïtien de l'Enfance (IHE). 1994–1995. *Enquête: Mortalité, Morbidité et Utilisation des Services (Emmus II)*. (Survey of Mortality, Morbidity and Utilization of Services). IHE.

Leke RJ. 1987. Outcome of pregnancy and delivery at the Central Maternity, Central Hospital, Yaoundé. *Annales Universitaires des Sciences de la Santé* 4(1): 322–330.

Leke RJ et al. 1988. Introduction of high-risk pregnancy care in rural Cameroon: Health service and research approach. *Journal of Obstetrics and Gynaecology of East and Central Africa* 7: 7–10.

MacDonald P. 1997. *Issues for Training in Essential Maternal Health Care in Indonesia*. Country Report (draft). JHPIEGO Corporation: Baltimore, Maryland.

Marshall MA and ST Buffington. 1991. *Life-Saving Skills Manual for Midwives*, 2nd ed. American College of Nurse-Midwives: Washing-

ton, D.C.

National Commission on the Role of Filipino Women. 1995. *Filipino Women: Trends and Issues 1995*. Philippine National Commission: Manila, The Philippines.

Philippine Department of Health, Health Intelligence Service. 1995. *Philippine Health Statistics*. Department of Health: Manila, The Philippines.

Postabortion Care Consortium. 1995. *Postabortion Care: A Reference Manual for Improving Quality of Care*. JHPIEGO Corporation: Baltimore, Maryland.

Rogo KO. 1989. Mortality in acute gynaecology: A developing country perspective. *International Journal of Gynaecology and Obstetrics* 30: 343–347.

Sullivan R et al. 1995. *Clinical Training Skills for Reproductive Health Professionals*. JHPIEGO Corporation: Baltimore, Maryland.

Thailand Ministry of Public Health. 1994. *Maternal Mortality in Thailand 1960–1993*. (Table). Thailand Ministry of Public Health: Bangkok, Thailand.

Wanjala S, NM Murugu and JG Mati. 1985. Mortality due to abortion at Kenyatta National Hospital, 1974–1983. *Ciba Foundation Symposium* 115: 41–53.

World Health Organization (WHO). 1994a. *Complications of Abortion: Technical and Managerial Guidelines for Prevention and Treatment*. WHO: Geneva.

World Health Organization (WHO). 1994b. *Mother-Baby Package: A Safe Motherhood Planning Guide*. WHO, Maternal Health and Safe Motherhood Programme, Division of Family Health: Geneva.

World Health Organization (WHO). 1991. *Maternal Mortality Ratios and Rates: A Tabulation of Available Information*. WHO, Maternal Health and Safe Motherhood Programme, Division of

Family Health: Geneva.

World Health Organization (WHO)/UNICEF. 1996. *Revised 1990 Estimates of Maternal Mortality: A New Approach by WHO and UNICEF*. WHO: Geneva.

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# APPENDIX B—WORKSHOP AGENDA

Wednesday, 24 April 1996

**0830**      **Welcome and Opening**  
Noel McIntosh

**Keynote Address: *Training—Are We Getting a Good Return on Our Investment?***  
David Oot

**0900**      **Introduction and Review of Schedule**  
Richard Sullivan

**0930**      **Overviews**

*Essential Maternal Health Care*  
Robert Johnson

*Family Planning Training Model*  
Sandra de Castro Buffington

*MotherCare Training Model*  
Jeanne McDermott

**1000**      **Discussion**

**1030**      **Break**

**1100**      **Country Profiles in Essential Maternal Health Care Training**  
(15-minute presentations followed by 5 minutes of discussion each)

*Brazil*      Silvia Bomfim Hyppólito

*Cameroon*      Robert Leke

*Haiti*      Jean-Robert Brutus

*Indonesia*      Biran Affandi



**1220**            **Lunch** at JHPIEGO

**1300 Country Profiles, continued**

*Kenya* Harshad Sanghvi

*Philippines* Lydia Palaypay

*Thailand* Kobchitt Limpaphayom

**1400 Life-Saving Skills Training**

Margaret Marshall

Presentation and Discussion

**1445 Break**

**1515 Demonstration of Computer-Assisted Technologies**

**ReproSystem<sup>SM</sup> Video**

**ModCal<sup>TM</sup>**

**Reproline<sup>SM</sup>**

**MomCare<sup>TM</sup> Video**

**1615 Competency-Based Training**

Richard Sullivan

Presentation and Discussion

**1700 The Status of the Risk Approach in Maternal Health Care**

Robert Leke

**1745 Review of Day One Proceedings**

Robert Johnson

**1800 Reception at JHPIEGO**

Thursday, 25 April 1996

**0830 Training Intervention Issues**

Harshad Sanghvi

Presentation and Discussion



- (Each discussant to have 15 minutes of prepared comments, followed by 45 minutes of general discussion at the end.)

Friday, 26 April 1996

- Group 1: *Training Systems Development*

*Facilitator:* Clayton Ajello

Group 2: *Materials Development*

*Facilitators:* Deborah Armbruster, Charlotte Quimby

Group 3: *Clinical Training*

*Facilitator:* Harshad Sanghvi

**1015        Break**

**1045        Working Groups Prepare Presentations**

**1100        Working Group Reports**  
(10 minutes presentation, 10 minutes discussion)

*Moderator:* Robert Johnson

**1200        Response to Working Groups and Next Steps**  
Noel McIntosh

**1230        Wrap Up**  
Marge Koblinsky

**1300        Adjourn**

# APPENDIX C—EXAMPLES OF EMHC TRAINING MATERIALS DEVELOPED BY ACNM, INTRAH/PRIME AND MOTHERCARE

## Global Materials

*Clinical Family Planning and Selected Reproductive Health Standards Resource List* (PRIME), still in the draft stage, identifies core and supplementary materials, including country-specific materials. Reading materials are categorized according to required reading level.

*Family Planning/Reproductive Health Clinical Skills Curriculum Development Sourcebook* (PRIME) is designed for reproductive health professionals who are already experienced trainers. It is a composite of several INTRAH field-tested, performance-based comprehensive family planning clinical curricula, expanded to incorporate selected areas of reproductive health care. The sourcebook is not envisioned as a single training program. Rather, a training site would use whatever combination of modules would best meet its needs.

*Life-Saving Skills Manual for Midwives* (ACNM and MotherCare) grew out of maternal mortality studies conducted in Ghana, and the manual was tested extensively there. It is designed as a continuing education resource for midwives, tutors and midwifery students. Its purpose is to give midwives in primarily rural or other isolated settings the knowledge and skills they need to perform life-saving techniques in maternal health care.

*Postpartum and Newborn Care: a Self-Study Manual to Update Trainers of Traditional Birth Attendants (TBAs) and Other Community-Based Maternal and Child Health (MCH) Workers* (PRIME) will update trainers and technical supervisors of community-based workers on the major aspects of postpartum and newborn care during the weeks after delivery. Its nine units cover community assessment; postpartum assessment and care; nutrition and breastfeeding; postpartum blues and depression; the first-time mother; postpartum family planning; post-abortion care; newborn assessment and care; and management of common newborn problems.

Other global training materials in development include curricula on anemia and postpartum care of the mother and neonate (MotherCare and ACNM).

## Country-Specific Materials

*Family Centered Maternity Care in Ukraine* (MotherCare). This curriculum, which is based on research and literature reviews, has a woman-oriented focus. Midwives and obstetricians work as a team in this course, receiving 1 week of classroom instruction and 1 week of clinic rotation.

*Healthy Mother-Healthy Baby in Indonesia* (MotherCare). This training package, still in development, is centered on a reference manual more basic than the Life-Saving Skills Manual. It contains material on prenatal and intrapartum care, but focuses particularly on postpartum care and the role of the community.

MotherCare also is collaborating on a curriculum for integrated reproductive health care (with MotherCare/Bolivia, Pathfinder/Bolivia and Georgetown University Institute for Reproductive Health/Bolivia).

In addition, PRIME is developing materials for the following countries:

- Ghana: National policy, standards and procedures documents integrating family planning and selected reproductive health topics; life-saving skills training materials for the Ghana Registered Midwives Association.
- Kenya: Reproductive Health Management Guidelines for clinicians and service providers of the Family Planning Association of Kenya, including family planning services, safe pregnancy services (prenatal care, intrapartum care and life-saving skills, postpartum care), postabortion care and STD prevention.
- Mali: National policy, standards and procedures documents integrating family planning and maternal and child health.
- South Africa: Open/distance learning curricula and materials which integrate reproductive health, family planning and maternal health into primary health care training for trainers and primary providers in rural hospitals, clinics and communities.
- Tanzania: Training materials for group and distance training and for on-the-job support for Health Attendants from the Ministry of Health. Materials cover client/provider interaction and counseling skills; family planning services; selected safe motherhood and newborn care services; and organizing and managing clinics.